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Clark Bendall

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EXAMINER

SMITH, PHILIP ROBERT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/768,761	Applicant(s) BENDALL ET AL.	
	Examiner PHILIP SMITH	Art Unit 3779	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 1-9, 15, 16 and 35-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-14 and 17-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

BPAI Decision of 5/4/11

[01] In the BPAI decision of 5/4/11, the Board found that Murata did not disclose a “unitary control and display handset element” because Murata does not disclose “a handheld device that allows a prospective user to monitor and control the operation of the endoscope system by hand. Rather, the remote control and display device are separate devices that are indirectly connected via the box-like unit.” Moreover, “the endoscope system is not a handheld device.”

Claim Rejections - 35 USC § 103

[02] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[03] Claims 10,12-14, 17, 19-21,23-26, 28, 30, 33 & 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murata (2001/0051762) in view of Hill (6,929,600) and in further view of Chikama (5,002,041).

[04] With regard to claim 10:

[04a] Murata discloses a modular visual inspection system for viewing the interior of a structure, comprising:

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- a base unit element comprising a memory element ("memory card 113," [0103], a processor element ("image processing circuit 111," [0103]), and a modular light source ("lamp 64," [0058]);
- a [] control [element] and [a] display [] element comprising a screen element for viewing the interior of the structure ("display device 10," [0045]) and an articulation control element ("motor-driven angling unit 17," [0046])
- an insertion element for imaging the interior of the structure, said insertion element comprising an imaging sensor ("charge-coupled device (CCD) 41" [0053]) and an elongated portion ("elongated insertion member 2 that is flexible," [0045]);
- wherein the base unit element is in electro-optical communication with the unitary control and display handset element,
- wherein each one of said plurality of insertion elements can be connected to said unitary control and display handset element, and
- wherein each one of said plurality of insertion elements can be used without modification of said unitary control and display handset element.

[04b] Murata does not disclose

- that the control element and display element are a unitary handset.
- As stated by the Board on page 9:

We find that an ordinarily skilled artisan would have readily appreciated incorporating Murata's display device into the remote control, thereby creating a unitary handheld device that includes both a display and a plurality of control switches, which allow a prospective user to monitor and control the operation of a remote video inspection system by hand. *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 416 (2007) ("[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one

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element for another known in the field, the combination must do more than yield a predictable result."). Thus, we find that Murata teaches or fairly suggests "a unitary control and display handset element comprising a screen element for viewing the interior of the structure and an articulation control element," as recited in independent claim 10.

Additionally, Murata discloses that the endoscope is indirectly connected to both the display device and the remote control via the front panel of the box-like main unit. (FF 1.) Therefore, since independent claim 10 does not preclude an indirect connection, we find that an ordinarily skilled artisan would have readily appreciated indirectly connecting Murata's endoscope to the remote control/display configuration set forth above. Moreover, Hill discloses numerous endotracheal tubes that have various lengths. (FF 3.) We find that an ordinarily skilled artisan would have appreciated that Murata's remote control/display configuration is also capable of indirectly connecting to each one of Hill's endotracheal tubes, thereby providing a prospective user (i.e., doctor) with greater flexibility in selecting the appropriate endotracheal tube when inspecting a patient's trachea. *KSR*, 550 U.S. at 417 ("[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill."). Thus, we find that the combination of Murata and Hill teaches or fairly suggests "wherein each one of said plurality of insertion elements can be connected to said unitary control and display handset element," as recited in independent claim 10. Accordingly, we find that the combination of Murata, Hill, and Chikama renders the subject matter of independent claim 10 unpatentable.

[04c] Murata does not disclose

- that there are a plurality of insertion elements, wherein each one of said plurality of insertion elements can be used without modification with said control and display element, wherein said plurality of insertion elements include at least two insertion elements have different physical or optical characteristics.

[04d] Hill discloses

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- a "connector 136" that "is preferably dimensioned to make a secure, friction fit with the universal adaptor 140," wherein "connector 136 may be slid up and down the stylet 104 to provide connection to the universal adaptor 140 for a variety of endotracheal tubes having various lengths."

[04e] At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide an endoscope system in which insertion elements of various lengths may be utilized. It is well-known that endoscopes may be used in a variety of procedures for which different insertion elements may be optimal.

[04f] Murata does not disclose that the elongated portion is braided.

[04g] Chikama discloses the following in 1/52-59:

A conventional insertion portion (flexible tube structure) for an endoscope ... comprises a holder coil formed by winding a strip-like plate, a braid tube formed around the outer periphery of the holder coil, and an outer sheath of a resin covering the braid tube.

[04h] At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use convention elements in the construction of Murata's elongated portion. Braids are conventionally used to construct elongated insertion portions in endoscopes because they are strong and flexible.

[05] With regard to claims 13,14,17: Murata discloses an aperture ("card connector 112," [0103]) to allow insertion of an electronic storage media comprising a PC cards ("113," as noted above).

[06] With regard to claim 12: Murata discloses a keyboard ("152," [0130], Fig 12).

[07] With regard to claims 19,20: Murata discloses that the base unit further comprises at least one connectivity element, wherein the at least one connectivity element is a serial port ("serial communication," [0131]).

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- [08] With regard to claim 23: Murata discloses a storage reel ("cylindrical drum 4" [0045]) for storing said insertion element.
- [09] With regard to claim 24: Murata discloses a weatherproof container element ("a box-like main unit 5," [0045]) sized such that the base unit element fits within the container element.
- [10] With regard to claim 26: Murata discloses an LCD ("LCD panel of the display device 10," [0056]) which is inherently capable of showing images in a 16:9 format.
- [11] With regard to claim 28: Murata discloses a joystick ("remote control unit 8," [0047]).
- [12] With regard to claim 30: Murata discloses at least one servo motor "motor-driven angling unit 17," [0046]).
- [13] With regard to claim 33: The memory element disclosed by Murata is capable of storing data representing images ([0103]).
- [14] With regard to claim 34: Murata discloses that the memory element of the base unit element includes a computer program for generating reports ("reading or writing..." [0103]) based on data obtained by the imaging sensor of each of said plurality of insertion elements.

Additional Claim Rejections- 35 USC § 103

- [15] Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murata in view of Pearlman (5,347,992).
- [16] Murata does not disclose a fluid reservoir.
- [17] Pearlman discloses the following in 1/11-23:

During endoscopic procedures, the surgeon must frequently irrigate and then suction a region in which he is operating. He is customarily provided with a handpiece that includes two trumpet-type valves, one for the liquid and the other for suction. His task in addition to manipulation of the various optical and surgical appliances associated with an endoscope is to irrigate regions of interest, and to suction out liquids and debris. Anything which can simplify

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this assortment of tasks is a welcome improvement. Convenience of grasp is a further convenience. If an appliance can only be gripped in one orientation, it is likely that in other alignments it will be inconvenient to manipulate.

- [18] At the time of the invention, it would have been obvious to a person of ordinary skill in the art that the endoscope disclosed by Murata have an irrigation channel which necessitates a fluid reservoir, as disclosed by Pearlman. A skilled artisan would be motivated to do so because endoscopic procedures conventionally require irrigation of regions of interest; and irrigation requires a fluid reservoir from which to draw irrigation fluid.

Additional Claim Rejections- 35 USC § 103

- [19] Claims 18, 22, 29, 31,32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murata in view of Saito (6,184,922).
- [20] With regard to claim 18: Murata does not disclose that the processor element of the base-unit element is capable of video compression.
- [21] Saito discloses a "motion-picture data compressing means" (4/42) which compresses endoscope images prior to storage. At the time of the invention, it would have been obvious to a person of ordinary skill in the art that the memory element disclosed by Murata store compressed images as taught by Saito. A skilled artisan would be motivated to do so in order to reduce the required size of the memory element, or to allow a greater amount of data to be stored on a memory element of finite size.
- [22] With regard to claim 22: Murata does not disclose that the modular light source is selected from the group of light sources consisting of: LEDs, arc discharge lamps, lasers, UV Lamps, and IR lamps.
- [23] Saito discloses an arc discharge lamp ("white light source 121 such as a xenon lamp" (14/49). At the time of the invention, it would have been obvious to a person of ordinary skill in the art that in

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reduction to practice the lamp disclosed by Murata take the particular from of an arc discharge lamp. A skilled artisan would be motivated to do so in order to provide strong white light, as xenon lamps are well known to provide.

[24] With regard to claim 29: Murata does not disclose a switch to freeze an image displayed by said control and display element.

[25] Saito discloses a "release switch 48" (5/54-60) which freezes a displayed image in the form of a "still image to be recorded." At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a freeze switch in the control and display element disclosed by Murata. A skilled artisan would be motivated to do so in order to allow a still image to be recorded to be viewed at a later date.

[26] With regard to claims 31,32: Murata does not disclose that the image sensor gathers sufficient data to create a selected video signal selected from the group of video signals consisting of: PAL, NTSC, and progressive scan.

[27] Saito discloses a "light source unit 103" which "agree[s] with the frame frequency of a video signal (29.97 Hz in the NTSC system). At the time of the invention, it would have been obvious to a person of ordinary skill in the art that the displayed video signal disclosed by Murata take the particular form of an NTSC signal. A skilled artisan would be motivated to use conventional elements. In reduction to practice, NTSC is a conventional video signal.

Additional Claim Rejections- 35 USC § 103

[28] Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murata.

[29] Murata discloses a control and display element, but does not disclose an anti-glare element.

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[30] At the time of the invention, it would have been obvious to a person of ordinary skill in the art that the control and display element disclose by Murata comprise an anti-glare element. A skilled artisan would be motivated to do so in order to enable better viewing of images.

Conclusion

[31] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip R Smith whose telephone number is (571) 272 6087 and whose email address is philip.smith@uspto.gov. The examiner can normally be reached between 9:00am and 5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Sweet, can be reached on (571) 272 4761. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Philip R Smith/
Primary Examiner, Art Unit 3779